CLAIMS

1. An enteral formulation for nasogastric delivery including,
   a) an amino acid source
   b) a carbohydrate source,
   c) a lipid source, and
   d) a fatty acid delivery agent, being a fatty acid covalently bonded to a carrier molecule by a bond hydrolysable in the colon to thereby release the fatty acid, wherein the formulation can be delivered through a feeding tube so as to release sufficient fatty acid in the colon to give rise to a health benefit to a recipient.

2. An enteral formulation for nasogastric delivery as in claim 1 wherein the formulation has a viscosity of no more than about 40cP at 25°C.

3. An enteral formulation for nasogastric delivery as in claim 1 wherein the formulation has a viscosity of no more than about 20cP at 25°C.

4. An enteral formulation for nasogastric delivery as in claim 1 wherein the formulation is capable of being stored for at least 24 hours and not forming a gel or precipitate that is not easily resuspended.

5. An enteral formulation for nasogastric delivery as in claim 1 wherein the enteral formulation is also an elemental formulation and includes a mineral source and a vitamin source.

6. An enteral formulation for nasogastric delivery as in claim 1 wherein the fatty acid is a short chain fatty acid (SCFA).

7. An enteral formulation for nasogastric delivery as in claim 6 wherein the SCFA is selected from the group consisting of, acetate, propionate, butryate, caproate, isovalerate, valerate and branched or modified derivatives thereof.

8. An enteral formulation for nasogastric delivery as in claim 6 wherein the SCFA is acetate.

9. An enteral formulation for nasogastric delivery as in claim 6 wherein the SCFA is propionate.

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10. An enteral formulation for nasogastric delivery as in claim 6 wherein the SCFA is butyrate.

11. An enteral formulation for nasogastric delivery as in claim 1 wherein the fatty acid is a SCFA or an omega 3 fatty acid, an omega 6 fatty acid or stearadonic acid.

12. An enteral formulation for nasogastric delivery as in claim 11 wherein the omega 3 fatty acid is selected from the group consisting of linolenic acid, eicosapentaenoic acid, docosahexaenoic acid, and the omega 6 fatty acid is linoleic acid.

13. An enteral formulation for nasogastric delivery as in claim 1 wherein the carrier is a carbohydrate.

14. An enteral formulation for nasogastric delivery as in claim 13 wherein the carrier is water soluble.

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15. An enteral formulation for nasogastric delivery as in claim 14 wherein the carrier is a soluble non-starch polysaccharide.

16. An enteral formulation for nasogastric delivery as in claim 15 wherein the soluble non-starch polysaccharide is selected from the group consisting of inulin, pectin, chitin, β glucans, mucilages, agar, carageenans, alginates and gums.

17. An enteral formulation for nasogastric delivery as in claim 15 wherein the carbohydrate is a pectin selected from the group consisting of high, medium and low methoxylated pectins and high, medium and low gel strength pectins and pectins derived from oranges, lemons or apples.

18. An enteral formulation for nasogastric delivery as in claim 15 wherein the carbohydrate is a gum selected from the group consisting of, guar, arabic, xantham, tragacanth, locust bean and psyllium.

19. An enteral formulation for nasogastric delivery as in claim 13 wherein the carrier is an insoluble non-starch polysaccharide.

20. An enteral formulation for nasogastric delivery as in claim 19 wherein the insoluble non-starch polysaccharide is selected from the group consisting of cellulose and hemicellulose.

21. An enteral formulation for nasogastric delivery as in claim 20 wherein the cellulose is selected from the group consisting of celluloses derived from oat hull, soybeans and cereal bran, microcrystalline celluloses, methyl celluloses, hydroxypropylmethyl cellulose and carboxymethylcellulose.

22. An enteral formulation for nasogastric delivery as in claim 13 wherein the carbohydrate is an oligosaccharide selected from the group consisting of fructooligosaccharides, galactooligosaccharides, short chain amylodextrins and maltodextrins and modifications and derivatives thereof.

23. An enteral formulation for nasogastric delivery as in claim 13 wherein the carbohydrate is a starch.

24. An enteral formulation for nasogastric delivery as in claim 23 wherein the starch is a starch digestible in the small intestine.

25. An enteral formulation for nasogastric delivery as in claim 23 wherein the starch is a starch resistant to digestion in the small intestine.

26. An enteral formulation for nasogastric delivery as in claim 25 wherein the starch is a high amylose starch.

27. An enteral formulation for nasogastric delivery as in claim 23 wherein the starch is a native starch.

28. An enteral formulation for nasogastric delivery as in claim 23 wherein the starch is a modified starch.

29. An enteral formulation for nasogastric delivery as in claim 23 wherein the starch is modified through the use of any one or more of the following, heat and/or moisture, physically, enzymatically, chemical hydrolysis, esterification, oxidation, cross bonding with difunctional reagents, and carboxymethylation.

30. An enteral formulation for nasogastric delivery as in claim 1 wherein the bond is selected from the group consisting of an ester bond, and ether bond or an amide bond.

31. An enteral formulation for nasogastric delivery as in claim 23 wherein the agent is made from an aqueous acylation method.

32. An enteral formulation for nasogastric delivery as in claim 23 wherein the degree of substitution ranges from 0.05 acyl group per saccharide unit to 2 acyl groups per saccharide unit.

33. An enteral formulation for nasogastric delivery as in claim 23 wherein the degree of substitution ranges from 0.1 acyl groups per saccharide unit to 0.5 acyl group per saccharide unit.

34. An enteral formulation for nasogastric delivery as in claim 6 wherein the carrier is a starch and the formulation having by weight 0.25% to about 5% of the fatty acid delivery agent.

35. An enteral formulation for nasogastric delivery as in claim 6 wherein the carrier is a starch and the formulation having by weight 0.5% to about 4% of the fatty acid delivery agent.

36. An enteral formulation for nasogastric delivery as in claim 6 wherein the carrier is a starch and the formulation having by weight about 2% of the fatty acid delivery agent.

37. An enteral formulation for nasogastric delivery as in claim 1 wherein the formulation is a preprepared in liquid form.

38. An enteral formulation for nasogastric delivery as in claim 1 wherein the formulation is dry requiring addition of water and agitation to form a suspension ready for use.

39. A method of elevating the level of SCFA in the colon of a human or animal, including the step of delivering a fatty delivery agent in a physiologically acceptable medium through a feeding tube to elevate the level of SCFA, the fatty acid delivery agent being a fatty acid covalently bonded to a carrier molecule by a bond hydrolysable in the colon to thereby release the fatty acid.

40. The method of claim 39 wherein the physiological acceptable medium is an enteral feed formulation, including,
a) an amino acid source,
b) a carbohydrate source, and
c) a lipid source.

41. The method of claim 39 wherein the fatty acid is a SCFA.

42. The method of claim 41 wherein the carrier is a starch.

43. The method of claim 39 wherein the level of the fatty acid within the large bowel increases within a time period of 6 hrs.

44. The method of claim 39 wherein the level of the SCFA within the large bowel increases within a time period of 4 hrs.

45. The method of claim 39 wherein the level of the fatty acid within the large bowel increases within a time period of 2 hrs.

46. The method of claim 39 wherein the fatty acid delivery agent constitutes less than about 30% by weight of the formulation.

47. The method of claim 39 wherein the fatty acid delivery agent constitutes less than about 20% by weight of the formulation.

48. The method of claim 39 wherein the fatty acid delivery agent constitutes less than about 10% by weight of the formulation.

49. The method of claim 39 wherein the fatty acid delivery agent constitutes less than about 5% by weight of the formulation.

50. A method of elevating the level of SCFA in the colon of a human or animal, including the step of delivering a fatty delivery agent in an enteral formulation to elevate the level of SCFA within the colon,
the enteral formulation including
a) an amino acid source,
b) a carbohydrate source and
c) a lipid source, and

d) a fatty acid delivery agent being a short chain fatty acid covalently bonded to a starch molecule by a bond hydrolysable in the colon to there by release the fatty acid.

51. The method of claim 50 wherein the enteral formulation is delivered through a nasogastric tube.

52. The method of claim 51 wherein the starch is a resistant starch.

53. The method of claim 52 wherein the resistant starch is a high amylose starch.

54. The method of claim 53 wherein the SCFA is selected from the group consisting of acetate, propionate and butyrate.

55. The method of claim 54 wherein the quantity of fatty acid delivery agent delivered is between 5 and 80gm/day.

56. The method of claim 54 wherein the quantity of fatty acid delivery agent delivered is between about 10 and 60 g/day.

57. The method of claim 54 wherein the quantity of fatty acid delivery agent delivered is between about 40 g/day.

58. The method of claim 55 wherein no more than 2 litres of the enteral formulation is delivered within a 24 hour time period.

59. The method of claim 55 wherein no more than 1 litre of the enteral formulation is delivered within a 24 hour time period.

60. The method of claim 55 wherein the fatty acid delivery agent is present in the formulation between 0.25% and about 5% by weight of the formulation.

61. The method of claim 55 wherein the fatty acid delivery agent is present in the formulation at about 2% by weight of the formulation.